

WHAT IS CLAIMED IS:

1. A single polarity driving method for a cholesteric liquid crystal display, the cholesteric liquid crystal display having a plurality of column electrodes, a plurality of row electrodes and a plurality of pixels disposed on crossing areas between the column electrodes and the row electrodes, at least one column driver providing with driving signals to the column electrodes, the column driver having a first column input and a second column input, at least one row driver providing with driving signals to the row electrodes, the row driver having a first row input and a second row input, the second row input of the row driver coupled to the first column input of the column driver, the inputs of the row driver and the column driver being single polarity, the polarity of the input of the row driver being reverse to that of the corresponding column driver, the single polarity driving method comprising the steps of:

(a) outputting an initial column signal to the corresponding column electrodes from the column driver, and outputting an initial row signal to the corresponding row electrodes from the row driver to initiate the corresponding pixel, wherein the initial column signal and the initial row signal are single polarity signals, and the polarity of the initial column signal is in reverse to that of the initial row signal so that an amplitude of an applied initial signal of the corresponding pixel is larger than a withstand voltage of the drivers, the applied initial signal of the corresponding pixel being single polarity; and

(b) outputting a column address signal to the corresponding column electrodes from the column driver, and outputting a row address signal to the corresponding row electrodes from the row driver, wherein the column address signal and the row address signal are single polarity signals to control the corresponding pixel.

2. The method according to Claim 1, wherein the initial row

signal is a positive square wave having a positive amplitude and the initial column signal is a negative square wave having a negative amplitude.

3. The method according to Claim 2, wherein the applied initial signal of the corresponding pixel equals the initial row signal minus the initial column signal, the applied initial signal is a positive square wave having twice positive amplitude.

4. The method according to Claim 1, wherein the initial row signal is a negative square wave having a negative amplitude and the initial column signal is a positive square wave having a positive amplitude.

10 5. The method according to Claim 4, wherein absolute value of the negative amplitude is the same as that of the positive amplitude.

15 6. The method according to Claim 4, wherein the applied initial signal of the corresponding pixel equals the initial row signal minus the initial column signal, the applied initial signal is a negative square wave having twice negative amplitude.

7. The method according to Claim 1, further comprising a setting step for setting the polarity of the initial column signal and the initial row signal before the step (a).

20 8. The method according to Claim 1, further comprising a periodically switching step for periodically switching the polarity of inputs of the column driver and the row driver so that the polarity of input of the column driver is in reverse to that of the corresponding row driver.

25 9. The method according to Claim 1, further comprising a discharging step for coupling the applied initial signal of the pixel to a ground terminal.

10. A non-symmetric AC driving method for a cholesteric liquid crystal display, the cholesteric liquid crystal display having a plurality of

column electrodes, a plurality of row electrodes and a plurality of pixels disposed on crossing areas between the column electrodes and the row electrodes, at least one column driver providing with driving signals to the column electrodes, the column driver having a first column input and a second column input, at least one row driver providing with driving signals to the row electrodes, the row driver having a first row input and a second row input, the non-symmetric AC driving method comprising the steps of:

- (a) inputting a first positive, a first negative power source to the first row input and the second row input of the row driver respectively, and inputting a second positive, a second negative power source to the first column input and the second column input of the column driver respectively, wherein the polarity of the power source of the row driver is in reverse to that of the corresponding column driver;
- (b) outputting an initial column signal to the corresponding column electrodes from the column driver, and outputting an initial row signal to the corresponding row electrodes from the row driver to initiate the corresponding pixel, wherein the initial row signal is a first non-symmetric AC signal and the initial column signal is a second non-symmetric AC signal, and the polarity of the first non-symmetric AC signal initial column signal is in reverse to that of the second non-symmetric AC signal so that an amplitude of an applied initial signal of the corresponding pixel is larger than a withstand voltage of the drivers, and the applied initial signal of the corresponding pixel is a non-symmetric AC signal; and
- (c) outputting a column address signal to the corresponding column electrodes from the column driver, and outputting a row address signal to the corresponding row electrodes from the row driver so as to control the corresponding pixel.

11. The method according to Claim 10, wherein the first non-symmetric AC signal has a first waveform and a second waveform, the

polarity of the first waveform is in reverse to that of the second waveform, and the amplitude of the first waveform is smaller than that of the second waveform.

12. The method according to Claim 11, wherein the first
5 waveform is a negative square wave signal, and the second waveform is a positive square wave signal.

13. The method according to Claim 11, wherein the first waveform is a positive square wave signal, the second waveform is a negative square wave signal.

10 14. The method according to Claim 10, wherein the second non-symmetric AC signal has a third waveform and a fourth waveform, the polarity of the third waveform is in reverse to that of the fourth waveform, and the amplitude of the third waveform is smaller than that of the fourth waveform.

15 15. The method according to Claim 14, wherein the third waveform is a positive square wave signal, the fourth waveform is a negative square wave signal.

20 16. The method according to Claim 14, wherein the third waveform is a negative square wave signal, and the fourth waveform is a positive square wave signal.

17. The method according to Claim 10, further comprising a discharging step for coupling the applied initial signal of the pixel to a ground terminal.

25 18. The method according to Claim 10, further comprising a periodically switching step for periodically switching the polarity of inputs of the column driver and the row driver so that the polarity of input of the column driver is in reverse to that of the corresponding row driver.